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ABSTRACT

This paper focuses on the effects of pre-college aptitude and high school achievement variables on university foreign language success at various undergraduate course levels in French, German, and Spanish. The objective is twofold: (1) to compare statistically contributions of different types of aptitude and achievement variables to grade point average (G.P.A.) attainment within specific course levels; and (2) to determine whether success in language courses stressing oral-aural methods is a product of the same set of factors associated with success in language courses emphasizing reading, grammar, and writing skills. The study, involving some 1,400 students in 13 course groups, discusses methods and results, and presents six tables of statistical information. (Author/RL)

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Some Correlates of Success in University Level Foreign Language Courses

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The contributions of different types of achievement and aptitude variables toward GPA attainment are assessed for thirteen University level foreign language courses in French, German, and Spanish for a large sample of UW students. Almost universally grade attainment in high school plays a larger part in grade success in college language courses than specific testable aptitudes. High school GPA's show fairly uniform and moderate correlations with French course level GPA's. Aptitude becomes a factor only at the 222 level, the course requiring critical reading ability; Vocabulary and English Usage are especially important. In German, correlations with high school GPA's are fairly high but WPC aptitude variables frequently are virtually uncorrelated with German GPA. Of the three languages, German college course success is most dependent on a solid high school language background. The correlations between WPC variables and the four Spanish course GPA's fluctuate widely. Verbal aptitude appears to be important in handling the essentials of Spanish grammar, as suggested in the substantial correlations with Spanish 201 GPA. Females tend to outperform males in all languages even though students are assigned to courses on the basis of similar language test scores.

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This paper focuses on the effects of Washington Pre-College (WPC) aptitude and high school achievement variables on University foreign language success at various undergraduate course levels in French, German, and Spanish. The objective is twofold: (1) to compare statistically contributions of different types of aptitude and achievement variables to GPA attainment within specific course levels; (2) to determine whether success in language courses stressing

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oral-aural methods is a product of the same set of factors associated with success in language courses emphasizing reading, grammar, and writing skills.

Methods. The sample consisted of students entering the University of Washington for the first time in Autumn Quarter 1968 who were registered in freshman and sophomore level language courses in French, German, and Spanish. None had previous college foreign language study (the vast majority were beginning college freshmen) and all had taken the WPC Test prior to entry. More than 80 per cent of the students had been placed in a language course by means of placement tests; a composite evaluation of reading, listening, and grammar scores is used in placing French and German students and MLA reading and listening scores are used with Spanish students (Beanblossom, 1969). Students not taking placement tests had for the most part chosen to initiate their college language studies at the beginning (course 101) of a sequence of six courses. This course sequence constituted the foreign language requirement of the College of Arts and Sciences. There was a small number of students for whom placement scores were not available.

The freshman level courses in all three languages, numbered 101, 102, and 103, deal with methods and objectives that are primarily oral-aural. The sophomore level counterparts, 201, 202, and 203 (222 in French), afford a systematic review of grammar (in 201), and extensive practice in reading and writing. French 222 moves into the realm of critical reading ability, required material for more advanced courses in French literature. Because of small numbers, five of the eighteen courses were eliminated from the analysis: French 101, German 202 and 203, and Spanish 101 and 203.

There are sixteen WPC variables consisting of high school GPA's in English, foreign language, mathematics, natural science, social studies, and electives,

as well as tests measuring Vocabulary, English Usage, Spelling, Reading Speed, Reading Comprehension, Quantitative Skills, Applied Math, Math Achievement, Spatial Ability, and Mechanical Reasoning. The WPC predicted GPA in the language chosen for study was also included as a variable. These seventeen variables, plus sex, semesters of high school study in the language, length of delay since last high school foreign language study, and placement test scores in reading, listening, and grammar were treated as independent variables, with language course GPA as the dependent variable.

The sample contained 1,441 students, 1,161 of whom had foreign language placement test scores. For each of the thirteen course groups correlations between the 23 independent variables (22 for Spanish courses) and course GPA were computed, as well as means and standard deviations for all variables. The correlations for each group were ranked in order of magnitude and then correlations between ranks for courses within languages were computed using Spearman's rho, a procedure designed to answer the second question posed earlier. Also, for each group Horst's sequential predictor selection method (Horst and Smith, 1950) was used to select the five best predictors of course GPA in each of the thirteen groups. The primary interest in this phase of the analysis was not so much in which predictors would be selected nor the weights the Horst method assigns the predictors, but rather a comparison of the multiple correlation coefficients for each course. The squares of these coefficients equal the percentage of variance in course GPA attributable to the five best predictors.

French Results. Grade attainment in high school plays a much larger part in grade success in college French courses than do specific testable aptitudes, as seen from correlational data in Table 1. Aptitudes begin to show healthy

correlations at the 222 level; grade achievement in courses appearing earlier in the sequence seems little affected by these aptitude measures. The high school GPA's show fairly uniform and moderate correlations with French course level GPA's. It's as if the high school GPA's (with the exception of electives) are tapping a unitary dimesion, i.e., grade-getting ability, rather than differential achievement between subject areas. What differences there are would suggest that high school GPA's in the more purely verbal areas such as English and foreign language are more closely linked with achievement in the oral-aural courses (102 and 103) than the grammar-reading-writing courses (201 and 202), while the opposite is true with mathematics, natural science, and social studies GPA.

Even though course placement is determined exclusively by language test scores, the latter vary sufficiently within placement categories to insure rather sizeable correlations with course GPA, at least in 102 and 222. In other words, students who narrowly missed placement into 103 performed better in 102 than students who barely managed to evade 101. Similarly, those narrowly gaining entry into 222 performed poorly relative to those achieving higher scores. However, performance in 103, 201, and 202 are hardly affected by language test scores. Placement by test scores does nullify the effects on course GPA of semesters of high school study in the language and delay since high school language study, both being highly correlated with language test scores. It does not, however, nullify the effects of sex on grade achievement—even within courses circumscribed by language test scores, females outperform males.

Aptitude becomes important at the 222 level, the course requiring critical reading ability. Indeed, at this level many of the WPC Test variables correlate

just as well with 222 GPA as high school grades. Vocabulary and English Usage are especially important, but Reading Comprehension and Quantitative Skills also turn up some fairly impressive correlations. Interestingly enough, Vocabulary plays a very minor role with respect to GPA attainment in 102, 103, 201, and 202 but unmistakably asserts itself at the 222 level where critical reading ability is demanded. Aptitude correlations are exceedingly low at the 103, 201, and 202 levels. They are somewhat more substantial among 102's.

From Table 1 data it is seen that the predictor variables employed explain about forty per cent of the variance in 102 and 222, but considerably less in the other three courses. This is partly due to the persistence of the MLA Test correlations with course GPA at the 102 and 222 levels.

The Spearman coefficients in Table 2 do not generally support the claim that success in oral-aural courses (102 and 103) comes about as the result of a different set of factors than success in courses emphasizing grammar, reading, and writing (201 and 202). Judging from the statistical associations, French 222 must be singled out as the course requiring special qualities because of its stress on certain aptitude characteristics.

German Results. An earlier study of high school language test achievement clearly demonstrated that German achievement is more intimately associated with WPC measures than French or Spanish achievement (Beanblossom, 1970). When attention is shifted to German college achievement measured by GPA, the WPC aptitude variables frequently are virtually uncorrelated with language GPA in college, even to a lesser degree than French. However, this is offset by the high associations between college language GPA and high school language GPA (higher than French and Spanish).

The tendency of German GPA attainment to be more a function of high school grades than specific abilities is most exaggerated at the 201 level when the student embarks on an extensive review of grammar. Four of the six high school GPA variables show correlations of .45 or better with 201 GPA, and the other two are better than .30. Many of the aptitude correlations hover near zero, and the highest is English Usage, a rather unimpressive .21. Thus the three oral-aural courses differ from 201 not so much in terms of the rank ordering of the WPC variables as in the relative differences in the magnitudes of the correlations with German GPA of achievement variables, on the one hand, and aptitude variables, on the other. Achievement in German 201 is much more highly related to high school GPA success in English, mathematics, and social studies than is the case with achievement in oral-aural courses where high school foreign language grades are predominant. High school foreign language grades remain important at the 201 level, however, suggesting that, of the three languages, German college success is most dependent on a solid high school language background.

Though an earlier study delineated the unsuspectingly strong impact of high school natural science GPA on German test performance of high school graduates (Beanblossom, 1970), this does not appear to carry over into college GPA attainments--high school natural science GPA does not seem to carry any more weight in modifying German course performance than French or Spanish. Indeed, it is one of the least potent high school GPA variables when it comes to explaining German grade achievement in college.

As with French, females in German do better than males at each course level, especially 201. Variability in placement test scores within course levels does not markedly alter GPA performance, except for grammar scores at

the 103 and 201 levels where some solid correlations appear. The effect on GPA of semesters of high school study and length of delay since high school study again appears to have been somewhat neutralized by the fact placements are initially determined by language competence.

Spanish Results. The Spanish data are very different from the French and German data in one important respect: the rank-order correlations between courses are considerably smaller, meaning that the correlations between WPC variables and the four course GPA's fluctuate widely. A perusal of data in Table 5 verifies this.

In Spanish 102 high school GPA's are paramount, especially mathematics and natural science, although certain aptitude variables reveal modest correlations, e.g., Spelling and the three quantitative variables. At the 103 level practically all correlations are low, the highest individual correlation being Spelling (+.32). The small number of cases sampled at this level may have something to do with this. Some arrestingly different correlation patterns emerge at the 201 level--English Usage, Vocabulary, and Reading Comprehension are very highly correlated, suggesting the importance of verbal aptitude in handling the essentials of Spanish grammar. At this level, high school GPA's are only moderately correlated with grade achievement. Spanish 201 is unique in that it is the only course from the thirteen surveyed in which a college GPA is more highly predictable from aptitude variables than high school GPA variables. Yet 202, ostensibly covering similar skills, offers a contrasting picture--many aptitudes are virtually uncorrelated with success at this level, and, in fact, Vocabulary and Reading Comprehension, so impressively linked with 201 GPA, are negatively correlated with 202 GPA. High school foreign language GPA affects performance at this level more than at any other level.

Though the WPC correlations seem to oscillate erratically from one course level to another in Spanish, the MLA scores continue to exert considerable influence at each level. This may be partly attributable to deficiencies in the placement system, whereby some students, feeling they were misplaced by the placement test, were shuttled one course forward or backward through mutual agreement with their instructors. This had the effect of widening the range of scores of students winding up in certain courses over what would have prevailed had no adjustments in the original placement been made. Increasing the range of MLA scores may have resulted in higher correlations at certain course levels, though this is by no means inevitable.

Just as in French and German, Spanish females also do better than the males, especially at the 201 and 202 levels, indicating once again that females are more successful grade achievers than males, even when students are assigned to courses on the basis of similar language test scores.

Table 1

Correlations between GPA's in various course levels of French and assorted aptitude, achievement, and background variables; N's, course GPA means and standard deviations, and multiple correlations from predictor selection results

	French Course Levels				
Variables	102	103	201	202	203
HS English GPA	+.43	+.35*	+.29	+.32	+.31
HS foreign language GPA	+.49*	+.31	+.27	+.33	+.25
HS mathematics GPA	+.43	+.28	+.33*	+.32	+.34
HS natural science GPA	+.35	+.26	+.29	+.45*	+.33*
HS social studies GPA	+.25	+.26	+.36*	+.29	+.30
HS electives GPA	+.18	+.29	+.21	+.16	-.12
Vocabulary	+.16	+.07	+.10	+.16	+.39*
English Usage	+.37	+.19	+.14	+.14	+.38
Spelling	+.32*	+.15	+.21*	+.14	+.20
Reading Speed	+.12	-.07	+.02	-.07	+.16
Reading Comprehension	+.22	+.13	+.13	+.17*	+.32
Quantitative Skills	+.28	+.13	+.04	+.08	+.32*
Applied Math	+.27	+.14	-.00*	+.05	+.16*
Math Achievement	+.31	+.19*	+.13	+.16	+.16
Spatial Ability	+.19	+.09	-.05	-.12*	+.10
Mechanical Reasoning	-.10	-.06	-.09	-.00	+.11
Sex (female)	+.19	+.22*	+.10*	+.22*	+.03
Delay since HS study	+.12*	+.08	+.16	-.04	-.11
Semesters HS study	+.12	+.14*	-.12	+.10	-.21
MLA Reading score	+.39*	-.03	+.07	+.21*	+.45*
MLA Listening score	+.30*	+.01	-.14	-.12	+.34
Grammar score	+.08	+.21*	+.06	+.12	+.30
aPredicted French GPA	+.56	+.42	+.42	+.46	+.41
N[b]	157	128	124	95	50
R (five best predictors)	.64	.47	.45	.52	.63
R^2 (five best predictors)	.41	.22	.20	.27	.40
Mean course GPA	2.43	2.27	2.52	2.54	2.62
S. D. course GPA	.84	.90	.92	.85	.95

*-Variables selected via the Horst technique using the five best predictors.

a-The WPC predicted GPA in French courses is not independent of the WPC variables and therefore was not included in the predictor selection routine.

b-N's for the correlations between the three language test scores and course level GPA's are respectively, 133, 107, 111, 86, and 48.

Table 2

Rankings of correlation magnitudes between GPA's in various course levels of French and seventeen WPC variables; rank-order associations between course levels

	French Course Levels				
WPC variables	102	103	201	202	203
HS English GPA	2	1	3	4	7
HS foreign language GPA	1	2	5	2	9
HS mathematics GPA	3	4	2	3	3
HS natural science GPA	5	5	4	1	4
HS social studies GPA	10	6	1	5	8
HS electives GPA	14	3	6	8	14
Vocabulary	15	15	13	9	1
English Usage	4	8	8	11	2
Spelling	6	10	7	12	10
Reading Speed	16	16	17	15	12
Reading Comprehension	11	12	9	7	6
Quantitative Skills	8	13	16	14	5
Applied Math	9	11	18	16	11
Math Achievement	7	9	10	10	13
Spatial Ability	12	14	15	13	16
Mechanical Reasoning	17	17	14	17	15
Sex	13	7	12	6	17
N	157	128	124	95	50

Rank-order Associations (Spearman's Rho)

	103	201	202	203
102	.70	.56	.55	.44
103		.79	.81	.16
201			.81	.34
202				.41

Table 3

Correlations between GPA's in various course levels of German and assorted aptitude, achievement, and background variables; N's, course GPA means and standard deviations, and multiple correlations from predictor selection results

	German Course Levels			
Variables	101	102	103	201
HS English GPA	+.36	+.34	+.31	+.53*
HS foreign language GPA	+.36*	+.52*	+.46*	+.46
HS mathematics GPA	+.30	+.23	+.35	+.49*
HS natural science GPA	+.25	+.33	+.30*	+.35
HS social studies GPA	+.35*	+.36	+.37	+.45
HS electives GPA	+.12	+.05	-.01	+.33
Vocabulary	+.12	+.27	+.10	-.03
English Usage	+.25*	+.37*	+.16	+.21
Spelling	+.25	+.33	+.13	-.06
Reading Speed	+.03	-.02	-.14*	-.16*
Reading Comprehension	+.05	+.20	-.02	-.04
Quantitative Skills	+.12	+.22	+.06	+.03
Applied Math	+.17	+.09	+.05	-.09
Math Achievement	+.20	+.19	+.13	+.15
Spatial Ability	+.10	+.10	-.03	-.20
Mechanical Reasoning	-.10	-.12	-.07	-.14
Sex (female)	+.14	+.19*	+.02	+.25
Delay since HS study	+.03	-.13	+.10	-.09
Semesters HS study	+.06*	+.01	+.03*	-.02
MLA Reading score	+.11	+.26*	+.16	+.06
MLA Listening score	+.12*	+.06	+.11	-.19*
Grammar score	+.07	+.16*	+.34*	+.40*
aPredicted German GPA	+.45	+.53	+.48	+.61
N[b]	232	109	110	65
R_2 (five best predictors)	.41	.60	.55	.70
R^2 (five best predictors)	.17	.37	.30	.49
Mean course GPA	2.88	2.66	2.55	2.72
S. D. course GPA	.90	.92	1.04	.96

*-Variables selected via the Horst technique using the five best predictors.

a-The WPC predicted GPA in German courses is not independent of the WPC variables and therefore was not included in the predictor selection routine.

b-N's for the correlations between the three language test scores and course level GPA's are respectively, 86, 93, 103, and 59.

Table 4

Rankings of correlation magnitudes between GPA's in various course levels of German and seventeen WPC variables; rank-order associations between course levels

WPC Variables	German Course Levels 101	102	103	201
HS English GPA	2	4	4	1
HS foreign language GPA	1	1	1	3
HS mathematics GPA	4	8	3	2
HS natural science GPA	6	6	5	5
HS social studies GPA	3	3	2	4
HS electives GPA	11	16	17	6
Vocabulary	13	7	10	17
English Usage	7	2	6	8
Spelling	5	5	9	14
Reading Speed	17	17	7	10
Reading Comprehension	16	10	15	15
Quantitative Skills	12	9	12	16
Applied Math	9	15	13	13
Math Achievement	8	12	8	11
Spatial Ability	14	14	14	9
Mechanical Reasoning	15	13	11	12
Sex	10	11	16	7
N	232	109	110	65

Rank-order Associations (Spearman's Rho)

	102	103	201
101	.75	.71	.67
102		.69	.34
103			.61

Table 5

Correlations between GPA's in various course levels of Spanish and assorted aptitude, achievement, and background variables; N's, course GPA means and standard deviations, and multiple correlations from predictor selection results

	Spanish Course Levels			
Variables	102	103	201	202
HS English GPA	+.39	+.12	+.35	+.26
HS foreign language GPA	+.30	+.09	+.34	+.44*
HS mathematics GPA	+.49*	+.31*	+.28	+.13
HS natural science GPA	+.44	+.18	+.29	+.34
HS social studies GPA	+.32	+.25	+.31	+.26
HS electives GPA	+.33*	+.11	-.05	+.24
Vocabulary	+.14	+.11	+.53	-.11*
English Usage	+.31*	+.21	+.55*	+.22*
Spelling	+.28	+.32*	+.35	+.11
Reading Speed	-.00	+.05	+.23	-.14*
Reading Comprehension	+.14	+.14	+.49	-.02
Quantitative Skills	+.25	-.02*	+.28*	+.11
Applied Math	+.26	+.10	+.16*	+.03
Math Achievement	+.33	+.16	+.17	+.17
Spatial Ability	+.02*	-.16	+.03	+.04
Mechanical Reasoning	-.02	-.08	-.08*	-.05
Sex (female)	+.11	+.19	+.22	+.29
Delay since HS study	+.02	+.18*	-.14	-.07
Semesters HS study	-.05	+.14	+.11	+.11
MLA Reading score	+.29*	+.45*	+.30	+.34
MLA Listening score	+.11	+.18	+.40*	+.51*
aPredicted Spanish GPA	+.51	+.32	+.54	+.34
N[b]	139	60	81	91
R_2 (five best predictors)	.56	.64	.66	.66
R^2 (five best predictors)	.31	.41	.43	.44
Mean course GPA	2.44	2.35	2.56	2.89
S. D. course GPA	.96	.90	.76	.86

*-Variables selected via the Horst technique using the five best predictors.

a-The WPC predicted GPA in Spanish courses is not independent of the WPC variables and therefore was not included in the predictor selection routine.

b-N's for the correlations between the two language test scores and course level GPA's are respectively, 127, 53, 73, and 82.

Table 6

Rankings of correlation magnitudes between GPA's in various course levels of Spanish and seventeen WPC variables; rank-order associations between course levels

	Spanish Course Levels			
WPC Variables	102	103	201	202
HS English GPA	3	10	5	4
HS foreign language GPA	8	14	6	1
HS mathematics GPA	1	2	10	10
HS natural science GPA	2	6	8	2
HS social studies GPA	6	3	7	5
HS electives GPA	4	12	16	6
Vocabulary	12	11	2	11
English Usage	7	4	1	7
Spelling	9	1	4	13
Reading Speed	17	16	11	9
Reading Comprehension	13	9	3	17
Quantitative Skills	11	17	9	12
Applied Math	10	13	14	16
Math Achievement	5	7	13	8
Spatial Ability	15	8	17	15
Mechanical Reasoning	16	15	15	14
Sex	14	5	12	3
N	139	60	81	91

Rank-order Associations (Spearman's Rho)

	103	201	202
102	.45	.19	.49
103		.29	.17
201			.16

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